

A small room, about 30 cubic meters, where two, then three than one person were present. Doors were opened during the night; left the room empty at about 06:30. The spikes were close breaths to watch the readout respond.

Langan Incorporates Carbon Dioxide

Bear Facts -- #89

CO2 measurements have been made for years.

However, it is not common to do so with complete portability.

Using the just-released Engelhard handheld monitor and Langan data storage the freedom to measure and record CO2 data anywhere, for long periods, is achieved.



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the DataBear

Bear Facts are published to provide useful insights into the operation and applications for the DataBear™ Measurer and associated complete instruments.

This photo shows the Engelhard CO₂ Monitor incorporated within the Langan support electronics and case; a clear cover completes the package. To the left are shown the computer connection (modular coupler), the lantern battery and a supplemental wall transformer. The data acquisition electronics are in the bottom of the case.



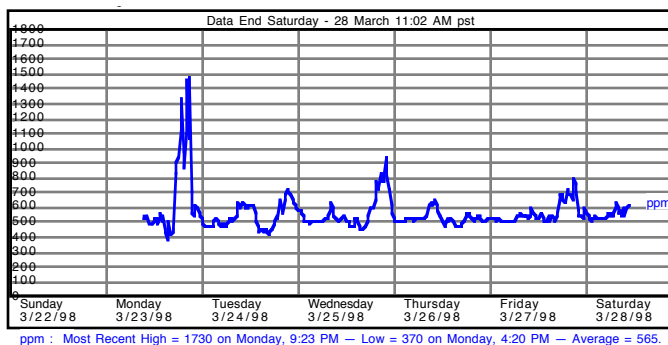
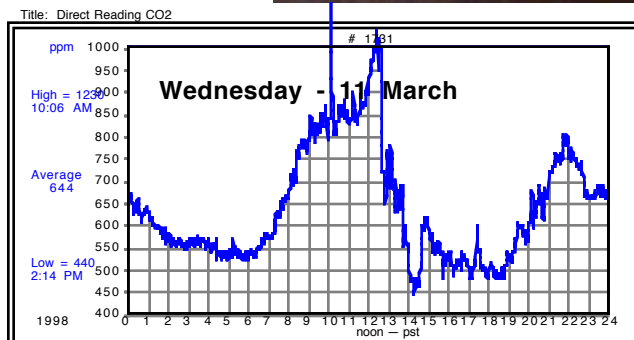
CO₂ is ubiquitous; we exhale it with every breath. It is a product of combustion, as well. For years Langan Products, Inc. has sought a convenient, hassle-free measurement technique for carbon dioxide to match our convenient portable carbon monoxide Model T15 Enhanced Measurer. With the availability of a new hand-held product created by Engelhard Industries, we found the sensor we could use: a miniature infrared chamber which would operate for long periods on battery support. The data in this Bear Facts are some of the first recorded with our Model T16 CO₂ Measurer.

The Model T16 is a complete CO₂ instrument housed in a 5 by 6 by 8-inch plastic case. This enclosure contains data acquisition, the CO₂ electronics and sensor (complete) and an F-cell lantern battery to maintain continuous operation for a month or longer. The data interface with Langan's Sense-Your-World! or IBearM Reader software. A supplemental AC wall transformer is stored here as well; it can be used when power is available.

CO₂ measurements are frequently used to observe the healthfulness or quality of ventilation indoors. The plots show some examples of typical levels one might expect.

The Model T16 is our first released product dedicated to CO₂. It is designed to be a rugged, reliable and secure complete data acquisition system for gathering CO₂ measurements. Of course, the DataBear Data Acquisition Measurer by itself can be interfaced very simply with a handheld Telaire 7001 available through us (or directly from Engelhard). This provides a combination that can record CO₂ data for about three and one-half days between AA-battery changes required by the 7001. The Model T16 packages all parts and greatly extends portable data acquisition times.

Future releases will include combining CO and CO₂ or CO, CO₂ and relative humidity. A temperature sensor is available in all combinations.



Examples of indoor, well-ventilated rooms.
A daily plot (top) and data covering a work week.

CO₂ can be observed in 3 ways with the Langan T16

Installed

The Telaire 7001 mounts within the Langan T16 case and is connected for data acquisition. The system is complete and secure and measures for over a month. As delivered.

Alone

The Telaire 7001 can be removed and used by itself with internal AA batteries. Spot readings can be made anywhere. It fits one's pocket. There are only two connections easily detached.

With AC

The Telaire 7001 can be powered with a supplemental wall transformer where AC is available. This allows for continuous use without dissipating batteries. It can be connected to data acquisition, or not, at the user's choice.

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Telaire 7001 of Engelhard Sensors, Inc. March 1998

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**Global warming or spoiled indoor air: measure carbon dioxide.
The new Model T16 CO₂ Measurer is now available from Langan Products, Inc.
A data sheet is available (just ask) or it can be reviewed on our website: <www.langan.net/lpi>
The Model T16 is compact and completely portable.**